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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/789,469

Filing Date: February 27, 2004

Appellant(s): NIGRIN, UWE

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Andres H. Grubert  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed on April 25, 2008 appealing from the Office action mailed November 27, 2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

JP 62-000684	TAGUCHI	01-1987
JP 56-151296	UDONO ET AL.	11-1981
DE 1005007602	GROSSNER	08-2006

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

This Office Action is responsive to the applicant's amendment filed on Aug. 31, 2007.

Claims 1-14 are pending in this application.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 2, 6, 8, 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi (Publication Number JP 62-000684).

Regarding claims 1, 2, 6, 8, 9 and 13, Taguchi discloses a vane cell pump for delivering fluids, comprising a rotor 14, a cam ring 11 and a plurality of vanes 19 which are pre-tensioned by means of spring elements 17, 18, the spring elements 17, 18 being an integral part of the rotor 14, the spring elements are captively molded into the rotor; the spring elements being implemented as spiral spring 23. However, Taguchi fails to disclose the rotor being made of plastic being designated as duroplast.

It is examiner's position that one having ordinary skill in the vane cell pump art, would have found it obvious to utilize the plastic rotor, since they are merely design parameters, depending on temperature, pressure, or stress acted/applied on the rotor or depending on being used for a particular purpose or solving a stated problem. Moreover, there is nothing in the

record which establishes that the claimed plastic rotor under such conditions, presents a novel of unexpected result (See *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)). Also, the applicant should note that the selection of a know material based upon its suitability for the intended use is a design choice consideration within the skill of the art. *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

2. Claims 1-4, 6, 8-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Udono et al. (Udono) (Publication Number JP 56-151296).

Regarding claims 1, 6, 8 and 13, Udono discloses a vane cell pump for delivering fluids, comprising a rotor 3, a cam ring 5 and a plurality of vanes 2 which are pre-tensioned by means of spring elements 23-25 the spring elements 6, 23-25 being an integral part of the rotor 3, the spring elements are captively molded into the rotor. However, Udono fails to disclose the rotor being made of plastic being designated as duroplast.

It is examiner's position that one having ordinary skill in the vane cell pump art would have found it obvious to utilize the plastic rotor, since they are merely design parameters, depending on temperature, pressure, or stress acted/applied on the rotor or depending on being used for a particular purpose or solving a stated problem. Moreover, there is nothing in the record which establishes that the claimed plastic rotor under such conditions, presents a novel of unexpected result (See *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)). Also, the applicant should note that the selection of a know material based upon its suitability for the intended use is a design choice consideration within the skill of the art. *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

Regarding claims 2-4 and 9-11, Udono discloses the spring elements are implemented as spring tongues 25; the spring elements being disposed on a ring 24; the spring elements being made of spring plastic.

3. Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Udono in view of design choice.

Udono discloses the invention as recited above; however, Udono fails to disclose the vanes and/or the cam ring and/or a side plate and/or a pump casing being made of plastic. It is examiner's position that one having ordinary skill in the vane cell pump art would have found it obvious to utilize the material being plastic, since they are merely design parameters, depending on temperature, pressure, or stress acted/applied on the rotor or depending on being used for a particular purpose or solving a stated problem.

4. Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Udono in view of design choice as applied to claim 1 and 8 above, and further in view of Grossner (Publication Number DE 1005007602).

The modified Udono discloses the invention as recited above; however, the modified Udono fails to disclose the vane pump being used as a pre-supply pump for a high-pressure pump of a common rail injection system.

It is examiner's position that one having ordinary skill in the vane cell pump art, would have found it obvious to utilize vane pump being used as supplying fluids, since they are merely design parameters, depending on being used for a particular purpose or solving a stated problem. Moreover, there is nothing in the record which establishes that the claimed vane cell pump for

supplying fluid under such conditions, presents a novel of unexpected result (See *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)).

**(10) Response to Argument**

**ISSUE A:**

With regard to the appellant's arguments that Taguchi or Udono fails to disclose the spring elements being an integral part of the rotor. The examiner respectfully disagrees.

The term "integral" is sufficiently broad to embrace constructions united by such means as fastening and welding (in re Hotte (C.C.P.A.) 157 U.S.P.Q. 326); the term is not necessarily restricted to a one-piece article (in re Kohno (C.C.P.A.) 157 U.S.P.Q. 275); and may be construed as relatively broad (in re Dike (C.C.P.A.) 157 U.S.P.Q. 581).

In this case, The Taguchi reference (as show in Figs. 1 and 2) discloses a rotor 14, a cam ring 11, a plurality of vanes 19; a holding implement/fitting 18 attached to the rotor 14 and the spring 17 is attached to the holding metal fitting 18. The Udono reference (as shown in Figs. 1-8) discloses a rotor 14, a cam ring 11, a plurality of vanes 19 and the spring elements 6 being integral part of the rotor 3. Even though, the Taguchi or Udono device includes individual components, they are secured together as a single unit; constituent parts are so combined as to constitute an integral; "integral" is not limited to a fabrication of parts from a single piece, but is inclusive of other means for maintaining parts fixed together as a single or integral unit. *In re Larson*, 144 USPQ 347 (CCPA 1965); *In re Lockart*, 90 USPQ 214 (CCPA 1951). Applicant's arguments with respect to claims 1-14 have been considered and the examiner still retains the rejection based on the definition of the "integral" as set above.

**ISSUE B:**

With regard to the appellant's arguments that the plastic rotor is not a mere design choice. The examiner respectfully disagrees.

Any differences between the claimed invention and the prior art may be expected to result in some differences in properties. The issue is whether the property differs to such an extent that the difference is really unexpected and unobvious and of both statistical and practical significant. Since the plastic material is light weight and since it is superb in terms of the mechanical properties such as high strength, durable, wear resistance, improve dimensional stability and/or lower thermal expansion, self lubricating, light weight material and the plastic material can be manufactured, for example, using compression or injection molding. The Taguchi or Udon reference discloses the invention substantially as claimed, but does not disclose the plastic rotor. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the rotor being made of plastic, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Additionally, it is well known to those with ordinary skill in the art that a rotor of a vane cell pump is made of plastic that is a material enhancing manufacturing, for example, using compression molding or injection molding. Therefore, such disclosure by Taguchi or Udon is notoriously well known in the art so as to be proper for official notice.

Accordingly, the rejection of claims 1-14 should be sustained.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

TT  
June 26, 2008

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